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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,422

09/28/2006

Ralf Dorscheid

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PHILIPS INTELLECTUAL PROPERTY & STANDARDS
595 MINER ROAD
CLEVELAND, OH 44143

EXAMINER

ELEY, JESSICA L

ART UNIT

PAPER NUMBER

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,422	Applicant(s) DORSCHIED ET AL.	
	Examiner JESSICA L. ELEY	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/28/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Ball and Socket Modular Radiation Detector.

Priority

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d). The certified copy has been filed on 28 September 2006.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-6, 9-11, and 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Dobbs et al US 5,487,098 (henceforth referred to as Dobbs).

Regarding claim 1, Dobbs teaches a modular device (FIG. 6) for the detection and/or transmission of radiation, comprising:

A carrier **28** with a mounting surface **40** and a set of first connecting elements (**54, 56, 58**);

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A set of modules **14** for the detection and/or transmission of radiation, each of them comprising a second connecting element (e.g., dowels **60**) that can be coupled to one of said first connecting elements to form a joint (FIG. 6).

Regarding claim 2, Dobbs teaches the modular device of claim 1, wherein the joint is adapted to allow linear movement to allow tolerance in the spacing of the modules (column 6 lines 43-47).

Regarding claim 3, Dobbs teaches the modular device of claim 1, wherein the modules may contact each other when they are mounted on the carrier (FIG. 5).

Regarding claim 4, Dobbs teaches the modular device of claim 1, wherein the modules comprise a base portion **70** that is larger in diameter than other part of the module.

Regarding claim 5, Dobbs teaches the modular device of claim 1, wherein the second connecting elements are cylinders (e.g., dowels **60**).

Regarding claim 6, Dobbs teaches the modular device of claim 1, wherein the first connecting elements (**54, 56, 58**) are constituted by circular holes in the mounting surface (FIG. 2) and the second connecting elements can be snapped into or through said holes or fixed to the holes by a locking element (e.g., mounting bolt **110**).

Regarding claim 9, Dobbs teaches the modular device of claim 1, wherein the mounting surface is a section of a plane, a cylinder or a sphere (FIG. 1).

Regarding claim 10, Dobbs teaches the modular device of claim 1, wherein the modules have a shape that allows the gapless filling of a plane, particularly the shape of a prism with a rectangular cross section (FIG. 5).

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Regarding claim 11, Dobbs teaches the modular device of claim 1, wherein the modules comprise a sensitive unit on which an anti-scatter grid **26** is mounted.

Regarding claim 13, Dobbs teaches a carrier **28** for a modular device **14** for the detection and/or transmission of radiation, comprising a mounting surface **40** and a set of first connecting elements (**54**, **56**, and **58**) that can be coupled with second connecting elements (e.g., dowels **60**) of modules to form a joint (FIG. 2).

Regarding claim 14, Dobbs teaches a module **14** for a modular device for the detection and/or transmission of radiation, comprising a second connecting element (e.g., dowels **60**) that can be coupled to a first connecting element (**54**, **56**, or **58**) of a carrier to form a joint (FIG. 2).

Regarding claim 15, Dobbs teaches an imaging device, comprising an X-ray sensitive modular device according to claim 1 as can be seen in FIG. 1.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

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4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbs et al US 5,487,098 (henceforth referred to as Dobbs) and further in view of Pritzkow US 4,521,689.

Regarding claim 7, the disclosure of Dobbs addresses all the limitations of parent claim 6, as discussed above. Dobbs fails to specifically teach an embodiment where the second connecting elements protrude from the backside of the carrier when fixed to the holes. However, such an arrangement is known and obvious in the art. Pritzkow teaches a similar modular radiation detector where the second connectors (fasteners 67) protrude from the backside of the carrier when fixed to the holes (See FIG. 4). It would be obvious to one of ordinary skill in the art at the time the invention was made to expose the second connecting elements by having them protrude from the backside of the carrier as this allows the elements to be easily replaced as taught by Pritzkow (column 3 lines 60-65).

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Claims 8 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dobbs et al US 5,487,098 (henceforth referred to as Dobbs) and further in view of Sherman et al. US 6,990,176.

Regarding claim 8, the disclosure of Dobbs addresses all the limitations of parent claim 6 as discussed above. Dobbs does not specify a particular material as being necessary for the composition of dowel pins **60**. Sherman teaches connecting elements made of flexible material (column 7 lines 20-25). It would be obvious to a person of ordinary skill in the art at the time the invention was made to construct these elements from a material which allows flexibility, as taught by Sherman, in order to accommodate for a necessary tolerance, which Dobbs teaches is a concern (column 7 lines 30-34).

Regarding claim 12, the disclosure of Dobbs addresses all the limitations of parent claim 1 as discussed above. Dobbs does not teach the specific embodiment wherein the first and second connecting elements are adapted to make at least one electrical contact when coupled together. However, an adaptation wherein connecting elements also form at least one electrical contact is known in the art of modular radiation detectors. Sherman teaches connectors **64** and **68** which are also I/O ports. It would be obvious to a person of ordinary skill in the art at the time the invention was made to have contacts that form an electrical connection as well as a joint as taught by Sherman since the connectors taught by Sherman allow for the insertion and extraction or field replacement of sensor arrays without the use of special tools or extra attachment components (column 2 lines 51-56).

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yokio et al. US 2005/0156114 A1 teaches a modular radiation detector wherein the first connecting elements and the second connecting elements form an electrical contact. However, the teachings of Yokio et al. do not qualify as prior art.

Saito et al. US 6,396,898 B1 teaches a modular radiation detector wherein a base **31** supports the radiation detector on stand **18** for easy modular replacement.

Hockersmith et al. US 7,321,653 B2 teaches a modular X-ray detector wherein the detector elements include a tab extension **44** for easy removal from the center hub element, however the teachings of Hockersmith et al. do not qualify as prior art.

Vogtmeier et al. US 2007/0242804 A1 teaches a radiation detection module **3** that fits into guide elements **2** that allow for easy insertion and extraction of the array panel, However the teachings of Vogtmeier et al. do not qualify as prior art.

Igarashi et al. US 6,587,538 B2 teaches a detector module that are provided on an engaging component having engaging portions that connect the scintillator block with the collimator plate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JESSICA L. ELEY whose telephone number is (571)272-9793.

The examiner can normally be reached on Monday - Thursday 8:00-6:30 EST.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. L. E./

Examiner, Art Unit 2884

/David P. Porta/

Supervisory Patent Examiner, Art Unit 2884